REMARKS

By this amendment, claims 1, 6, 8, 11, 13, 14, 22, 24, 27, and 29 have been amended. Claims 5, 7, 9, 12, 21, 23, 28, and 30 have been cancelled without prejudice and thus claims 1-4, 6, 8, 10-11, 13-20, 22, 24-27, and 29 are currently under examination in the present application. For the reasons set forth below, Applicants submit that the present amendments and arguments place this application in condition for immediate allowance.

As an initial matter, by virtue of the present amendments, claim 1 has been amended to incorporate the limitations previously presented in claim 5 and to indicate that the reductant can be a mixed cobalt/nickel sulphide, cobalt sulphide, or nickel sulphide. Support for this amendment, including the provision of the nickel sulphide reductant, can also be found, for example, on page 8, line 23 of the present application, where reference is made to the use of a sulphide reductant. Similarly, claim 14 has also been amended to indicate that the reductant can be a mixed cobalt/nickel sulphide, cobalt sulphide, or nickel sulphide and to include specific leaching steps. Support for this amendment can be found, for example, on pages 7-8 of the application where these leaching steps are described. Finally, claims 6, 8, 11, 13, 22, 24, 27, and 29 have also been amended to either incorporate limitations previously presented in other dependent claims, which are now cancelled, or to amend the claims such that they do not depend on a claim which, by the present amendments, has been cancelled. Accordingly, no new subject matter has been added by the present amendments.

In the Office Action dated November 24, 2008, the Examiner rejected claims 1-30 under 35 U.S.C. §103(a) as being unpatentable over Suarez, et al. (CA 2,256,560). The Examiner further rejected claims 3 and 16 under 35 U.S.C. §103(a) as being unpatentable over Suarez in view of Einar T. Carlson, et al. (CA 618,826). For the reasons set forth below, Applicants submit that the Examiner's rejections are respectfully traversed and should be withdrawn.

The present application as reflected in the claims, as amended, relates to a reductive ammoniacal leaching process where an impure nickel and cobalt bearing material is subjected to a reductive leach. In this regard, the nickel and cobalt bearing material is typically either a nickel, cobalt, or mixed nickel/cobalt hydroxide, carbonate, basic carbonate, or basic sulfate material and is leached with a feed ammoniacal ammonium carbonate solution that can be sourced from the leaching of a reduced laterite ore in a Caron type leach process.

A particular feature of this process is that the reductant used is either a mixed nickel/cobalt sulphide, nickel sulphide, or cobalt sulphide, which is produced by taking a portion of an ammoniacal ammonium carbonate leach solution that is derived from the Caron type leach process and treating that solution with ammonium or sodium sulphide to produce a solid precipitate of mixed cobalt/nickel sulphide, nickel sulphide, or cobalt sulphide. This sulphide is then used as the reductant in the presently-claimed process, and is added to the nickel and cobalt bearing material together with the feed ammoniacal carbonate material, in a leach step, to produce an enriched process liquor, which may then be processed for nickel and cobalt recovery. In other words, the presently-claimed

process advantageously allows the production of the reductant to be integrated within a process where a portion of an ammoniacal ammonium carbonate solution, which has been used to leach a reduced laterite ore, is utilized for both the production of the reductant and to leach a nickel, cobalt, or mixed nickel/cobalt material.

In addition to the advantageous benefits of the presently-claimed process that are described above, Applicants have also surprising discovered several other unexpected benefits to the recovery process described and claimed in the present application. First, Applicants have unexpectedly found that that reductive leach residue, which follows the leach of the impure nickel, cobalt, or mixed nickel/cobalt, has improved settling and filtration characteristics that allows for a more economic and efficient separation of the residue from the leach product solution. Moreover, Applicants have surprisingly found that by adding a reductant to the nickel and cobalt feed product, the recovery into solution of nickel and cobalt is significantly higher.

In contrast to the present application, Suarez describes a ammonia-ammonium carbonate leach of a reduced nickel laterite at a particular temperature. The process described by Suarez takes place in a tubular reactor where air or oxygen is injected and the pulp is cooled within the tubular reactor. As such, it is indeed the case that the process described by Suarez is in fact an oxidative leach of the laterite pulp and the laterite pulp does not come into contact with a reductant of any sort. The leached pulp merely undergoes a solid/liquid separation to produce a pregnant leach liquor that contains nickel, cobalt, and solid wastes.

Despite these differences between the presently-claimed process and the process described in Suarez, the Examiner has cited page 6 of the Suarez reference, which describes a step where ammonium hydrosulphide may be used to obtain a mixed cobalt/nickel sulphide product, and has further asserted that "it would have been obvious... to consider the sulphide as a reductant in so far as the carbonate solution is treated in order to produce the sulphide so they would both be considered present in the leach step and the sulphide would inherently act as a reductant." Contrary to the Examiner's assertions, however, this step described by Suarez is simply a common step used to produce a mixed cobalt/nickel sulphide product and is part of the nickel and cobalt recovery process. It is not part of a leach process where an impure nickel, cobalt, or mixed nickel/cobalt material is leached, as described and claimed in the present application. Indeed, Suarez does not teach or suggest a reductive leach of an impure nickel, cobalt, or mixed nickel/cobalt material. Suarez is only concerned with an oxidative leach of a reduced laterite ore pulp. The mixed cobalt/nickel sulphide product of Suarez is not involved in any leach step, and thus cannot act inherently as a reductant in a leach step, as the Examiner has asserted. Carlson adds nothing further in this regard and was merely cited by the Examiner for its teachings with respect to a mixed nickel/cobalt hydroxide.

In summary, the claims of the present application, as amended, relate to the reductive leach of an impure nickel and cobalt bearing material by using a mixed nickel/cobalt sulphide, cobalt sulphide, or nickel sulphide as the reductant. Neither

Suarez nor Carlson teach or even remotely suggest the reductive leach of such a material and thus cannot be fairly characterized as rendering obvious the present invention.

Accordingly, Applicants respectfully submit that the present invention, as reflected in the amended claims, is not rendered obvious by the cited references and that the claims of the present application are clearly patentable over those references. Applicants thus submit that the Examiner's rejections on the basis of those references is respectfully traversed and should be withdrawn.

In light of the amendments and arguments provided herewith, Applicants submit that the present application overcomes all prior rejections and objections, and has been placed in condition for immediate allowance. Such action is respectfully requested.

Respectfully submitted,

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